ΨK

PCT10

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/019,823A

DATE: 10/24/2002
TIME: 15:36:28

Input Set : A:\SYN-128.ST25.txt
Output Set: N:\CRF4\10242002\J019823A.raw

```
     3 <110> APPLICANT: Zeneca Limited
     5 <120> TITLE OF INVENTION: Insecticidal Proteins from Paecilomyces and Synergistic
     6       Combinations Thereof
     8 <130> FILE REFERENCE: SYN-128
    10 <140> CURRENT APPLICATION NUMBER: US 10/019,823A
C-->11 <141> CURRENT FILING DATE: 2002-08-21
    13 <150> PRIOR APPLICATION NUMBER: PCT/GB00/02457
    14 <151> PRIOR FILING DATE: 2000-06-23
    16 <150> PRIOR APPLICATION NUMBER: GB 9915215.9
    17 <151> PRIOR FILING DATE: 1999-06-29
    19 <150> PRIOR APPLICATION NUMBER: GB 9930536.9
    20 <151> PRIOR FILING DATE: 1999-12-23
    22 <160> NUMBER OF SEQ ID NOS: 65
    24 <170> SOFTWARE: FastSEQ for Windows Version 4.0
    26 <210> SEQ ID NO: 1
    27 <211> LENGTH: 33
    28 <212> TYPE: PRT
    29 <213> ORGANISM: Paecilomyces sp.
    31 <220> FEATURE:
    32 <221> NAME/KEY: VARIANT
    33 <222> LOCATION: 1, 2
    34 <223> OTHER INFORMATION: Xaa = Any Amino Acid
    36 <400> SEQUENCE: 1
W-->37 Xaa Xaa Ile Cys Thr Pro Ala Gly Val Lys Cys Pro Ala Ala Leu Pro
    38  1               5                  10                  15
    39 Cys Cys Pro Gly Leu Arg Cys Ile Gly Gly Val Asn Asn Lys Val Cys
    40              20                  25                  30
    41 Arg
    45 <210> SEQ ID NO: 2
    46 <211> LENGTH: 33
    47 <212> TYPE: PRT
    48 <213> ORGANISM: Paecilomyces sp.
    50 <400> SEQUENCE: 2
    51 Gly Lys Ile Cys Thr Pro Ala Gly Val Lys Cys Pro Ala Ala Leu Pro
    52  1               5                  10                  15
    53 Cys Cys Pro Gly Leu Arg Cys Ile Gly Gly Val Asn Asn Lys Val Cys
    54              20                  25                  30
    55 Arg
    59 <210> SEQ ID NO: 3
    60 <211> LENGTH: 35
    61 <212> TYPE: PRT
    62 <213> ORGANISM: Paecilomyces sp.
    64 <220> FEATURE:
```

see p.6

ENTERED

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```
 65 <221> NAME/KEY: VARIANT
 66 <222> LOCATION: 1, 2
 67 <223> OTHER INFORMATION: Xaa = Any Amino Acid
 69 <400> SEQUENCE: 3
```
W--> 70 Xaa Xaa Gly Lys Ile Cys Thr Pro Ala Gly Val Lys Cys Pro Ala Ala
```
 71 1               5                   10                  15
 72 Leu Pro Cys Cys Pro Gly Leu Arg Cys Ile Gly Gly Val Asn Asn Lys
 73             20                  25                  30
 74 Val Cys Arg
 75         35
 78 <210> SEQ ID NO: 4
 79 <211> LENGTH: 332
 80 <212> TYPE: DNA
 81 <213> ORGANISM: Paecilomyces sp.
 83 <400> SEQUENCE: 4
 84 ggcaagatct gcactcctgc tggagttgta cgtattttca tccatttcct ycaccactcc 60
 85 tctaacatga agcaactttc tcttctctct agaaatgtcc cgcggctctt ccttgctgcc 120
 86 ccggacttcg ctgcatcggc ggcgtcaacg taagtcacca tggatctggc aagcgagacc 180
 87 ataacatgac gcagtatact aaccctggcc gttatagaac aaggttgtga gtcgacatgt 240
 88 tktacaacct ctacaaacgc gcgcactaat gacaacggta gtgccggtaa ttctagtgtc 300
 89 gcaacttttg agcgtgggat aagtatgctt cg                              332
 91 <210> SEQ ID NO: 5
 92 <211> LENGTH: 320
 93 <212> TYPE: DNA
 94 <213> ORGANISM: Paecilomyces sp.
 96 <400> SEQUENCE: 5
 97 gggaaaattt gtacgccggc gggggttgta cgtattctca tccatttcct ccaccactcc 60
 98 tctaacatga agcaactctc tcttctctct agaaatgtcc cgcggctctt ccttgctgcc 120
 99 ccggacttcg ctgcatcggc ggcgtcaacg taagtcacca tcctgacacg acgtgaaggc 180
100 aatgtactga ccctggccgt tatagaacaa ggttgtgagt cgacatgttt tacaacctct 240
101 acaaacgcgc gcactaatga caacggtagt gccggtaatt ctagtgtcgc aacttttgag 300
102 cgtgggataa gtatgcttcg                                           320
104 <210> SEQ ID NO: 6
105 <211> LENGTH: 320
106 <212> TYPE: DNA
107 <213> ORGANISM: Paecilomyces sp.
109 <400> SEQUENCE: 6
110 gggaaaatct gtacgccggc gggggttgta cgtattttca tccatttcct ccaccactcc 60
111 tctaacatga agcaactctc tcttctctct araaatgtcc cgcggctctt ccttgctgcc 120
112 ccggacttcg ctgcatcggc ggcgtcaacg taagtcacca tcctgacacg acgtgaaggc 180
113 aatgtactga ccctggccgt tatagaacaa ggttgtgagt cgacatgttt tacaacctct 240
114 acaaacgcgc gcactaatga caacggtagt gccggtaatt ctagtgtcgc aacttttgag 300
115 cgtgggataa gtatgcttcg                                           320
117 <210> SEQ ID NO: 7
118 <211> LENGTH: 174
119 <212> TYPE: DNA
120 <213> ORGANISM: Artificial Sequence
122 <220> FEATURE:
123 <223> OTHER INFORMATION: Synthetic polynucleotide codon optimised
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        Input Set : A:\SYN-128.ST25.txt
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125 <400> SEQUENCE: 7
126 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
127 gagatccagg ccggcaagat ctgcacccccg gccggcgtga agtgcccggc cgccctcccg 120
128 tgctgcccgg gcctccgctg catcggcggc gtgaacaaca aggtgtgccg ctga   174
130 <210> SEQ ID NO: 8
131 <211> LENGTH: 174
132 <212> TYPE: DNA
133 <213> ORGANISM: Artificial Sequence
135 <220> FEATURE:
136 <223> OTHER INFORMATION: Synthetic polynucleotide codon optimised
138 <400> SEQUENCE: 8
139 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
140 gagatccagg ccggtaaaat ttgtaccccg gccggcgtga agtgcccggc cgccctcccg 120
141 tgttgtccgg gcctcaggtg tattggtggt gtgaataata aagtgtgtcg ctga   174
143 <210> SEQ ID NO: 9
144 <211> LENGTH: 363
145 <212> TYPE: DNA
146 <213> ORGANISM: Artificial Sequence
148 <220> FEATURE:
149 <223> OTHER INFORMATION: Synthetic sequence containing intron sequence
151 <400> SEQUENCE: 9
152 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
153 gagatccagg ccggcaagat ctgcactcct gctggagttg tttgtttctg cttctacctt 120
154 tgatatatat ataataatta tcattaatta gtagtaatat aatatttcaa atattttttt 180
155 caaaataaaa gaatgtagta tatagcaatt gcttttctgt agtttataag tgtgtatatt 240
156 ttaatttata acttttctaa tatatgacca aaacatggtg atgtttagaa atgtcccgcg 300
157 gctcttcctt gctgccccgg acttcgctgc atcggcggcg tcaacaacaa ggtttgccgg 360
158 taa   363
160 <210> SEQ ID NO: 10
161 <211> LENGTH: 369
162 <212> TYPE: DNA
163 <213> ORGANISM: Artificial Sequence
165 <220> FEATURE:
166 <223> OTHER INFORMATION: Synthetic sequence
168 <400> SEQUENCE: 10
169 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
170 gagatccagg cctcctacgg caagatctgc actcctgctg gagttgtttg tttctgcttc 120
171 tacctttgat atatatataa taattatcat taattagtag taatataata tttcaaatat 180
172 ttttttcaaa ataaaagaat gtagtatata gcaattgctt ttctgtagtt tataagtgtg 240
173 tatattttaa tttataactt ttctaatata tgaccaaaac atggtgatgt ttagaaatgt 300
174 cccgcggctc ttccttgctg ccccggactt cgctgcatcg gcggcgtcaa caacaaggtt 360
175 tgccggtaa   369
177 <210> SEQ ID NO: 11
178 <211> LENGTH: 363
179 <212> TYPE: DNA
180 <213> ORGANISM: Artificial Sequence
182 <220> FEATURE:
183 <223> OTHER INFORMATION: Synthetic sequence
185 <400> SEQUENCE: 11

```
186 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
187 gagatccagg cctcctacat ctgcactcct gctggagttg tttgtttctg cttctacctt 120
188 tgatatatat ataataatta tcattaatta gtagtaatat aatatttcaa atattttttt 180
189 caaaataaaa gaatgtagta tatagcaatt gcttttctgt agtttataag tgtgtatatt 240
190 ttaatttata acttttctaa tatatgacca aaacatggtg atgtttagaa atgtcccgcg 300
191 gctcttcctt gctgccccgg acttcgctgc atcggcggcg tcaacaacaa ggtttgccgg 360
192 taa                                                             363
194 <210> SEQ ID NO: 12
195 <211> LENGTH: 363
196 <212> TYPE: DNA
197 <213> ORGANISM: Artificial Sequence
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Synthetic sequence containing intron and codon
201       optimised
203 <400> SEQUENCE: 12
204 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
205 gagatccagg ccggcaagat ctgcaccccg gccggcgtgg tttgtttctg cttctacctt 120
206 tgatatatat ataataatta tcattaatta gtagtaatat aatatttcaa atattttttt 180
207 caaaataaaa gaatgtagta tatagcaatt gcttttctgt agtttataag tgtgtatatt 240
208 ttaatttata acttttctaa tatatgacca aaacatggtg atgtttagaa gtgcccggcc 300
209 gccctcccgt gctgcccggg cctccgctgc atcggcggcg tgaacaacaa ggtgtgccgc 360
210 tga                                                             363
212 <210> SEQ ID NO: 13
213 <211> LENGTH: 439
214 <212> TYPE: DNA
215 <213> ORGANISM: Paecilomyces sp.
217 <400> SEQUENCE: 13
218 tctacttctt catctcacgc catatatcct cccaaaatca cacctcttcc ttcaccatgc 60
219 aaatctccgc cgtcattgtc gcactcttcg ccagcgccgc catggccggc aagatctgca 120
220 ctcctgctgg agttgtacgt attttcatcc atttcctyca ccactcctct aacatgaagc 180
221 aactttctct tctctctaga aatgtcccgc ggctcttcct tgctgccccg gacttcgctg 240
222 catcggcggc gtcaacgtaa gtcaccatgg atctggcaag cgagaccata acatgacgca 300
223 gtatactaac cctggccgtt atagaacaag gttgtgagtc gacatgttkt acaacctcta 360
224 caaacgcgcg cactaatgac aacggtagtg ccggtaattc tagtgtcgca acttttgagc 420
225 gtgggataag tatgcttcg                                             439
227 <210> SEQ ID NO: 14
228 <211> LENGTH: 102
229 <212> TYPE: DNA
230 <213> ORGANISM: Paecilomyces sp.
232 <400> SEQUENCE: 14
233 ggcaagatct gcactcctgc tggagttaaa tgtcccgcgg ctcttccttg ctgccccgga 60
234 cttcgctgca tcggcggcgt caacaacaag gtttgccggt aa                 102
236 <210> SEQ ID NO: 15
237 <211> LENGTH: 84
238 <212> TYPE: DNA
239 <213> ORGANISM: Dahlia sp.
241 <400> SEQUENCE: 15
242 atggttaata gatctgttgc tttttctgct tttgttctta ttctttttgt tttggctatt 60
243 tcagatattg cttctgtttc agga                                       84
```

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Input Set : A:\SYN-128.ST25.txt
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```
245 <210> SEQ ID NO: 16
246 <211> LENGTH: 87
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial Sequence
250 <220> FEATURE:
251 <223> OTHER INFORMATION: Radish signal sequence
253 <400> SEQUENCE: 16
254 atggctaagt ttgcttctat tattgctctt ttgtttgctg cacttgtttt gtttgctgca 60
255 tttgaagctc caactatggt tgaagct                                     87
257 <210> SEQ ID NO: 17
258 <211> LENGTH: 72
259 <212> TYPE: DNA
260 <213> ORGANISM: Zea mays
262 <400> SEQUENCE: 17
263 atgggtggca gcggcagggc tgctctgctg ctggccctgg tggccgtgag cctggccgtg 60
264 gagatccagg cc                                                     72
266 <210> SEQ ID NO: 18
267 <211> LENGTH: 90
268 <212> TYPE: DNA
269 <213> ORGANISM: Nicotiana sp.
271 <400> SEQUENCE: 18
272 atgggatttg ttctcttttc acaattgcct tcatttcttc ttgtctctac acttctctta 60
273 ttcctagtaa tatcccactc ttgccgtgcc                                  90
275 <210> SEQ ID NO: 19
276 <211> LENGTH: 51
277 <212> TYPE: DNA
278 <213> ORGANISM: Paecilomyces sp.
280 <400> SEQUENCE: 19
281 atgcaaatct ccgccgtcat tgtcgcactc ttcgccagcg ccgccatggc c           51
283 <210> SEQ ID NO: 20
284 <211> LENGTH: 28
285 <212> TYPE: PRT
286 <213> ORGANISM: Dahlia sp.
288 <400> SEQUENCE: 20
289 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
290 1               5                   10                  15
291 Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly
292             20                  25
295 <210> SEQ ID NO: 21
296 <211> LENGTH: 29
297 <212> TYPE: PRT
298 <213> ORGANISM: Artificial Sequence
300 <220> FEATURE:
301 <223> OTHER INFORMATION: Radish protein target sequence
303 <400> SEQUENCE: 21
304 Met Ala Lys Phe Ala Ser Ile Ile Ala Leu Leu Phe Ala Ala Leu Val
305 1               5                   10                  15
306 Leu Phe Ala Ala Phe Glu Ala Pro Thr Met Val Glu Ala
307             20                  25
```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/24/2002
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<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,2
Seq#:3; Xaa Pos. 1,2
Seq#:30; N Pos. 9,12,15
Seq#:31; N Pos. 9,12,15,18
Seq#:32; N Pos. 3,6,9,12,15
Seq#:33; N Pos. 3,12,15
Seq#:34; N Pos. 2,14
Seq#:35; N Pos. 3,6,18
Seq#:36; N Pos. 12,15,18,21,24
Seq#:37; N Pos. 3,6,9,12,21,24
Seq#:38; N Pos. 6,9,12,15,18
Seq#:39; N Pos. 9,12,15
Seq#:43; N Pos. 23,24,25,26,27
Seq#:48; N Pos. 3,15,18,21
Seq#:54; Xaa Pos. 602
Seq#:60; Xaa Pos. 1,2,3,5,6,7,8,9,10,12,13,14,15,16,19,20,21,22,24,25,26,27
Seq#:60; Xaa Pos. 28,29,30,31,33
Seq#:65; Xaa Pos. 1,2

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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:37 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:70 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:409 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:413 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:414 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:424 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:428 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31
L:429 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:439 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:443 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:32
L:444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:454 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:458 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:33
L:459 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:469 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:473 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:34
L:474 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:484 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:488 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:35
L:489 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:499 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:503 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:36
L:504 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:514 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:518 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37
L:519 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0
L:529 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:533 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:38
L:534 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0
L:544 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:548 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:39
L:549 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
L:592 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:596 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:597 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
L:651 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:655 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:48
L:656 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0
L:721 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:725 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:54
L:800 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:592
L:1331 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1336 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:60
L:1337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0
L:1339 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:16
L:1341 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:32
L:1409 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!

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L:1413 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:65
L:1414 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:65 after pos.:0